

## **REMARKS**

This communication is considered fully responsive to the Office Action mailed June 2, 2009. Claims 1-10 have been amended.

### **Claim Rejections – 35 USC §112**

Claims 2-7 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 2-7 have been amended and distinguish the static inlet and outlet from the rotary inlet and outlet. Applicants respectfully submit that claims 2-7 are currently in compliance with 35 USC §112, second paragraph.

### **Claim Rejections – 35 USC §102**

Claim 1 was rejected under 35 USC §102(b) as being anticipated by US Patent No. 6,263,682 (hereinafter “Winnington”). Applicants submit that amended claim 1 is not anticipated by Winnington since Winnington fails to disclose a heat pump having a “vapour generator comprising a heat exchanger that is located within the interior of the rotary unit, the heat exchanger comprising a thermally conductive fluid conduit adapted to receive a heating medium from a heat source external to the interior of the rotary unit”.

To the contrary, Winnington discloses the use of a second solution heat exchanger 38 located between a condenser 24 and an intermediate vapour generator 26 and the vapour absorber 40 to inhibit crystallization of the working fluid in the fluid flow path to the vapour absorber. The heat source for the second solution heat exchanger is a portion of the working fluid from the vapour generator, a source entirely internal to the heat pump. Contrary to the teachings of the present specification and claims, the heat pump heat source 22 of Winnington is a burner located external, and at a distance, to the hermetically sealed unit 10. As such, Winnington clearly teaches away from the development of amended claim 1.

### Claim Rejections – 35 USC §103

Claims 8-10 were rejected under 35 USC §103(a) as being unpatentable over Winnington in view of US Patent No. 5,617,737 (hereinafter “Christensen”).

With respect to each of amended dependent claims 8-10, and also amended claims 2-7, neither Winnington nor Christensen alone or in combination, renders the dependent claims obvious, because neither of the cited references disclose or otherwise suggest each and every limitation of independent claim 1, from which the dependent claims depend. Moreover, with respect to dependent claims 2-7, neither of the references discloses nor otherwise suggests the use of static and rotary heating medium inlets and outlets that are arranged to circulate a heating medium from an external source to a heat exchanger located internal to the vapour generator portion of a heat pump.

With respect to claim 10, the Office Action states that Christensen discloses that “the mid part of a heat exchanger tube as shown in Figs. 18-23 is in direct contact with air for better heat exchange purposes.

Figure 18 of Christensen represents a “desorber formed as upper, intermediate and lower windings of desorber coils; the upper winding coils are contained in an annular cylinder to achieve confined counter-current cross flow, the intermediate winding coils are contained in an enclosing tube to afford confined helical counter-current flow, and the lower winding coils are contained in an annular cylinder to achieve confined counter-current cross flow.” (Emphasis added.) Figure 19 of Christensen represents a “desorber formed as upper, intermediate and lower windings of desorber coils; the upper winding coils are contained in an annular cylinder to achieve confined counter-current cross flow, the tube used to form the intermediate winding of coils is contained in a second enclosing tube to afford confined helical counter-current flow, and the lower winding coils have been wound in a groove on an insulating annular cylinder and contained in a second enclosing cylinder.” (Emphasis added.) Figure 20 of Christensen represents “an absorber and desorber combination with the absorber and desorber each having three windings of coils with each of the windings enclosed in a cylinder or an annular cylinder or the tube forming the winding enclosed in a second tube.” (Emphasis added.) Figure 21 of Christensen represents an absorber and desorber

combination according to another embodiment with the “absorber and desorber each having three windings of coils with each of the windings enclosed in an annular cylinder or the tube forming the winding enclosed in a second tube.” (Emphasis added.) Figure 22 is another embodiment of the absorber and desorber configuration of Figure 21 of Christensen in which a portion of the strong solution from the absorber outlet is used as a heat transfer fluid to cool the upper absorber winding and then to heat the upper desorber winding after which it enters the desorber inlet. Figure 23 is another embodiment of the absorber and desorber configuration of Figure 21 in “which a portion of the strong solution from the outlet on the second tube enclosing the absorber tube of the intermediate absorber winding outlet is used as a heat transfer fluid to cool the upper absorber winding and then to heat the upper desorber winding after which it enters the desorber inlet.” (Emphasis added.) (See column 7, line 56-column 8, line 32 and also columns 19-27.) In each of Figures 18-23 Christensen teaches that the intermediate windings are either contained within a tube, a cylinder or an annular cylinder.

Applicants submit that neither Winnington nor Christensen alone or in combination teach or otherwise suggest a heat pump having a condenser in which “at least a portion of the condenser is in direct contact with the environment exterior to the rotary unit so that there is direct cooling of the condenser via the exterior environment.” Nor would one of ordinary skilled in the art have been motivated to combine the references in a way to achieve the invention of amended claim 10. As such, Applicants submit that amended claim 10 is clearly patentable over Winnington in view of Christensen.

Claim 9 was rejected under 35 USC §103(a) as being unpatentable over Winnington and Christensen as applied to claim 8, and further in view of JP 2000-274831 A (hereinafter “Nobuyuki”). Applicants submit that neither Winnington nor Christensen alone or in combination, renders claim 9 obvious, because neither of the listed references disclose nor otherwise suggest each and every limitation of independent claim 1, or dependent claim 8, from each of which claim 9 depends. Nobuyuki does not cure these failures of Winnington and Christensen.

### **Conclusions**

The Applicants respectfully submit that all rejections are obviated or traversed and respectfully request that they be withdrawn. A timely Notice of Allowance is requested to be issued in this case. Applicants believe that no further fees or petitions are due with this filing. However, should any other such fees or petitions be required, please consider this a request therefor and authorization to charge Deposit Account No. 02-2093 as necessary.

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Respectfully submitted,

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